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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/508,885	09/23/2004	Tatsukazu Kimura	CU-3914 RJS	8117

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EXAMINER	
MAKI, STEVEN D	
ART UNIT	PAPER NUMBER
1791	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/508,885	KIMURA ET AL.	
	Examiner	Art Unit	
	Steven D. Maki	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 15* is/are pending in the application.

4a) Of the above claim(s) *1-4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-13 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *021309*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1) The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2) Claim 5-13 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 5, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is the combination of "a width of the non-spread portion is less than 10 mm" and "a length of the hard edge part in directions of a width thereof on a cross section thereof in directions of a width of a hardened plaster board after drying up in step (g) is about 0.1 mm to about 15.0 mm". The original disclosure fails to teach using a non-spread portion having a width less than 10 mm to form a 15 mm wide hard edge part.

Applicant argues that one of ordinary skill in the art would readily understand that the width of the hard edge part may be larger than the width of the non-spread portion. Applicant directs attention to page 17 lines 11-12 and page 26 lines 9-11 of the specification. Applicant further argues that the combination of "less than 10 mm" (line 35) and "about 0.1 mm to about 15 mm" (line 41) is supported by and reasonably conveyed by the original disclosure. Applicant's arguments are not persuasive.

Examiner agrees that each range is individually supported by the original disclosure. However, the range of about 0.1 mm to about 15 mm for the hard edge part cannot be obtained using the range of less than 10 mm for the non-spread portion. The specification teaches that the hard edge part is made from the non-spread portion and has a width of 0.1 mm to 15 mm. See page 27 lines 31-33 and page 28 lines 1-2 of specification. This disclosure of 0.1 mm to 15 mm for the hard edge part at page 26 lines 9-11 and page 27 line 31 to page 28 line 2 constitutes the *broad disclosure* of the application and, furthermore, reveals that the width of the hard edge part is *limited by* the width of the non-spread portion. This is especially true since the base paper is folded upward as shown in Figure 5. The folding up of the base paper with the non-spread portion thereupon results in a hard edge part that has a width at most equal to the width of the non-spread portion. The formation of *wider* hard edge part from a *narrower* non spread portion on a base paper which is folded upward as disclosed in the original disclosure is *impossible*. In the response filed 3-12-09, applicant offers no explanation as to how the wider hard edge part can be formed from the narrower non-spread portion. This issue of whether or not a wider hard edge part (e.g. a hard edge part having a width of 15 mm) can be formed from a narrower non-spread portion (e.g. a non-spread portion having a width of less than 10 mm) is relevant to the new combination of "less than 10 mm" and "about 0.1 mm to about 15 mm" as set forth in claim 5 because claim 5 reads on the hard edge part having a width of less than 10 mm (this being the identical language of claim 5) and a hard edge part of 15 mm (15 mm falls within the claimed range of "about 0.1 mm to about 15 mm" as in claim 5). With

respect to the disclosure at page 17 lines 11-12, examiner emphasizes that the range of less than 10 mm is a *preferred* disclosure in the specification. See page 27 lines 12-18. The non-spread portion generally has a width less than 10 mm when the *preferred* width of less than 10 mm is desired for the hard edge part. The original disclosure fails to support and reasonably convey using the preferred width of less than 10 mm to obtain a wider width of, for example 15 mm; it again being noted that "15 mm" falls within the claimed range of "about 0.1 mm to about 15 mm".

3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4) **Claims 5-13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 808 (JP 08-112808) in view of Sucech et al (US 5,683,635), Hauber et al (US 6,878,321), Birdsey (US 1,514,827) and Ferguson (US 5,799,458).**

Japan 808 discloses making a plasterboard (gypsum board / drywall panel) comprising forming a slurry by mixing water, calcined gypsum, and additives using a **mixer 120**, supplying high density gypsum slurry 130 from the mixer 120, depositing the high density gypsum slurry 130 flowing through duct 140 on a lower paper sheet 110, using a **spreader roll 14 to form a spread portion and non-spread portions** on the lower paper sheet 110, supplying low density gypsum slurry 200 from the mixer 120, depositing the low density gypsum slurry flowing through duct 190 on the deposited high

density slurry 130, supplying a high density slurry 130 from the mixer 120, depositing the high density slurry 130 flowing through duct 150 on the upper sheet 160, forming a layered structure of the upper sheet - gypsum slurry - lower paper sheet, rough cutting the layered product, hardening the gypsum slurry, cutting the rough cut product to a predetermined product length board and drying the board. Japan 808 teaches that use of a high density slurry for the edges prevents dryout and loss of strength of the edges. See figure 1, figure 2, abstract and machine translation. During a partial oral translation of claim 13 and part of paragraph 15 of Japan 808 by a USPTO translator, the following information was obtained. In claim 13, Japan 808 describes:

> Method for molding gypsum board according to claim 12 including the fact that before a laminated body is formed, both of the edges of the lower paper are folded upward along the longitudinal direction and a dam part of mud is formed from the non extended part.

In paragraph 15, Japan 808 describes:

> The length of the application roller 14 is smaller than the width of the original paper and between the edges of the application roller 14 and original paper A, a non-extended part 20 not shown in the drawing is formed. The width of the non extended part 20 is generally preferred to be from 10 mm to 50 mm. Therefore, the mud which is extended in the width direction of the original paper A by the extension part 20 passes along the non extended part 20 and is inserted from the two ends of the application roller 14. It is possible to flow on the respective edges of original paper A (edges of the folded gypsum board) from both ends of the thin layer. When original paper A is used as upper paper of the gypsum board, it is not necessary to provide the non extended part 20, but both ends of the thin layer must be glued and the width of the roller or the non extended part 20 must be the width excluding the glued part.

Also, see page 5, 15 and 16 of the USPTO translation of Japan 808 cited with this office action. One of ordinary skill in the art would have understood the range of 10-50 mm in Japan 808 as being descriptive of "a width" of the non-spread portion 20 since (1)

Japan 808 describes the non-spread portion 20 with reference to the edge of the spreading roll and the edge of the paper (instead of an initial location and a downstream location) and (2) the width between the edge of the spreading roll and the edge of the paper is a fixed width. See for example paragraph 8 of machine translation of Japan 808 and above noted partial oral translation by USPTO translator. In other words, Japan 808 teaches forming a non-spread portion such it has a width falling in the range of 10 to 50 mm.

Japan 808 is silent as to the specific construction of mixer 120 for supplying the high density gypsum slurries and low density gypsum slurry.

As to claim 5, it would have been obvious to one of ordinary skill in the art to (A) provide Japan 808's mixer 120 as a **disk-type rotary mixer** having (i) at least one fractionation port (for the high density slurry coatings on the front and back paper) such that the port is provided on a peripheral area of the disk-type rotary mixer and (ii) a delivery pipe (for the core slurry) such that the pipe is provided on the peripheral area of the disk-type rotary mixer wherein an inlet for foam is set on the delivery pipe;
(B) extract high density gypsum slurries 130, 130 for application to the upper sheet 160 and lower paper sheet 110 from the at least one fractionation port; (C) introduce the remainder of the slurry into the delivery pipe; pour foam into the delivery pipe through the inlet for foam to form the low density gypsum slurry and (D) deposit the low density gypsum slurry as the core slurry 200 since (1) Japan 808, directed to making gypsum boards, suggests providing mixer 120 as a *single mixer* for supplying the high density slurries and the low density slurry (paragraph 20 of machine translation, page 20 of

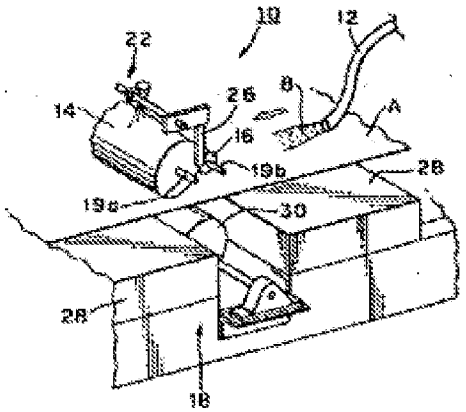
USPTO translation), (2) Sucech et al, directed to making gypsum boards, teaches providing a mixer comprising a *single mixing chamber* 10, rotating disc 54, auxiliary outlet 44 (fractionation port) for extracting "higher density" gypsum slurries, conduit 42 (delivery pipe) and foam inlet 32 for forming a foamed "lower density" gypsum core slurry so that a lightweight board can be formed and efficiency of foaming agent is improved and (3) Hauber et al, directed to making gypsum boards, suggests supplying first gypsum slurry and third gypsum slurry to facing and backing sheets and supplying a second gypsum slurry as a core slurry using a disk-type rotary mixer 30, separate controllers 36, 46, 136 and outlets 34, 48, 134 ("delivery pipes") so that, in addition to using *one mixer* to provide all three streams, additives (e.g. foaming material for the core gypsum slurry 44) can be added to each stream as desired (figure 1, col. 6 lines 19-53, col. 8 lines 44-57, col. 11 lines 10-55). Although Hauber et al teaches using glass fiber mats for the sheets, Hauber et al teaches that paper may be used. See col. 5 lines 53-65. The formation of a lightweight foamed gypsum core per the teachings of Sucech et al and Hauber et al would have been desired by Japan 808 since Japan 808 teaches using a low density gypsum slurry for the core whereas high density gypsum slurry is used for coating the upper and lower paper sheets. Motivated by the desire found in Japan 808 to use one mixer 120 to supply three gypsum streams, one of ordinary skill would have found it obvious to employ a disc type mixer as described by Sucech et al and Hauber et al for such purpose. Motivated by the desire found in Japan 808 to use a low density core gypsum slurry, one of ordinary skill in the art would have found it obvious to add foam to the gypsum slurry for the core as described by Sucech

et al and Hauber et al to obtain the desired low density. It is noted that Japan 808 uses foam to achieve the lighter weight core. See pages 6 and 20 of USPTO translation of Japan 808.

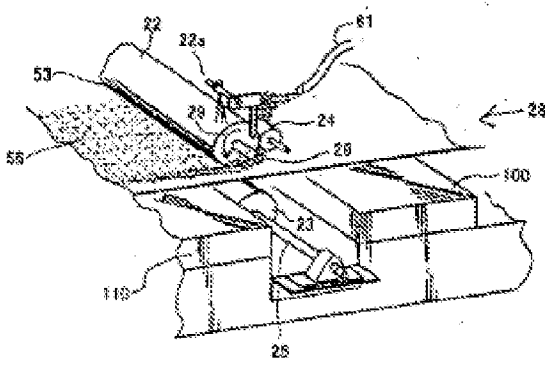
Japan 808 teaches folding the edges of the lower sheet upward and applying an upper sheet, but does not appear to recite adhering the upper sheet to a margin of the lower paper sheet.

With respect to folding, it would have been obvious to one of ordinary skill in the art to use Japan 808's plasterboard manufacturing method such that sheets 110, 160 are paper sheets, the lower paper sheet 110 has **scoring lines** and is **folded** and the upper paper sheet 160 is adhered to a margin of the lower paper sheet since (1) Japan 808 teaches upwardly folding the edges of the lower paper sheet upon which gypsum slurry has been deposited and applying an upper sheet and (2) Birdsey, directed to making wallboards, suggests scoring and upwardly folding the edges of a face paper sheet upon which a gypsum slurry has been deposited and applying and adhering a backing paper sheet to margins of the face paper so that the gypsum slurry is confined and the paper sheets are maintained together (page 1 lines 97-110, figures 6-9). Birdsey evidences the customary practice in the plasterboard art to fold a paper sheet having score lines, overlap the edges of the paper sheets and adhere the overlapping edges together (page 1 lines 97-110, figures 6-9). It is noted that the USPTO translation of Japan 808 confirms that the base paper is folded and adhered to the top paper. See pages 6 and 16 of USPTO translation of Japan 808.

With respect to the spreader roll, the claimed spreading roll corresponds to Japan 808's spreading roll 14. Figure 1 of Japan 808 and figure 3 of this application are provided below:



JAPAN 808



APPLICANT

As can be seen from the above figures, Japan 808's spreading roll 14 is substantially the same as applicant's spreading roll 22. As can also be seen from the above figures, both of Japan 808's spreading roll 14 and applicant's spreading roll 22 have a length less than the width of the paper sheet. In Japan 808, the width W of the board is less than the width X of the paper sheet because both edges of the paper sheet are folded upward along the longitudinal direction and the width between the fold lines (score lines) defines the width W of the board. In other words:

X (width paper) > W (width board) = distance between fold lines (score lines)

With respect to the width of the board being equal to the distance between boundary lines of the front and side surface, see applicant's definition at page 25 of the specification. In Japan 808, the spreading roll 14 has a length L less than the width X of the paper sheet. In other words:

X (width paper) > L (length spreading roll)

Japan 808 teaches that the spreading roller 14 is used to form a spread part on the lower paper sheet. Japan 808 teaches that a non-spread part is formed on the lower paper sheet at each end of the spreading roll 14. Japan 808 teaches that the non-spread part has a preferred width of 10 mm to 50 mm. In other words:

width Y (each non-spread part) = 10 mm to 50 mm (0.39 inch to 1.97 inch)

Japan 808 does not recite a specific width of the gypsum board (drywall panel). However, it would have been obvious to one of ordinary skill in the art to make Japan 808's plaster board (drywall) such that it has a **standard width of for example four feet (48 inches)** since drywall panels are typically produced in lengths up to 16 feet and standard widths of 48 inches and 54 inches as evidenced by Ferguson (col. 1 lines 13-15). If the distance between the end of the spreading roll 14 and the fold line (score line) is equal to the width of the non-spread portion, then the length L of the spreading roll 14 is:

width W (board) = width Y (non-spread) + length L (roll) + width Y (non-spread)

length L (roll) = width W (board) - (width Y (non-spread) + width Y (non spread))

When the width Y of the non-spread portion is 10 mm and the width W of the plaster board is the standard width of four feet (48 inches), the length L of the spreading roll 14 is 98.3% of the width W of the plaster board as demonstrated below:

W = Y + L + Y

4 feet = 10 mm + L + 10 mm

4 feet = (10 mm + 10 mm) + L

L = 4 feet - (10 mm + 10 mm)

L = 4 feet - 20 mm

L = 48 inches - 0.79 inches

L = 47.2 inches

⇓

L / W = 47.2 inches / 48 inches

L / W = 0.983

⇓

L = 98.3% W

The length L of 98.3% falls within the claimed range of 98% to 108%. If at least a part of the non-spread portion extends beyond the fold line (score line), then only a fraction of the 10 mm range falls within the zone defined between the end of the roll and the fold line such that the length L is greater than 98.3% and thereby falls further within the claimed range of 98% to 108%. With respect to at least a part of the non-spread portion extending beyond the fold line, one of ordinary skill in the art to would readily understand that **the high density gypsum slurry flows beyond the location at which the lower paper is folded upwardly and that the paper is then folded upwardly**. This conclusion is supported by the following statements of Japan 808: (1) "Furthermore, achievement of the increase in specific gravity of the edge of plaster board and a edge field is attained by passing the slurry of high specific gravity in the non-spread section of spreading roll both ends" (paragraph 9 of machine translation, emphasis added); (2) "... both of the edges of the lower paper are folded upward along

the longitudinal direction and a dam part of mud is formed from the non-extended part." (claim 13, partial oral translation, emphasis added); (3) "It is possible to flow on the respective edges of original paper A (edges of the folded gypsum board) from both ends of the thin layer." (paragraph 15, partial oral translation), (4) "... JP 808 discloses slurry extending in the directions of the width of the paper sheet A on the spread portion 20 flowing out of both ends of the spreading roll 14 through the non-spread portion 20 and being able to flow into the respective edge portions of the paper sheet A (edge portions of a plaster board for which both sides thereof being folded) from both sides of a thin layer (paragraph 15) ..." (page 7 of response filed 12-5-07, emphasis added). Also, Figure 2 illustrates the paper as being flat instead of being in a folded configuration. Thus, Japan 808 teaches "the slurry for application for the non-spread portions in step (c) conducted prior to step (g) is applied to outsides of lines of the front surface covering base paper which define a width of the plaster board". With respect to the lines being scoring lines, Birdsey teaches score lines 20 to facilitate folding of the paper (Figure 2).

With respect to the length of the spreader roll, it would have been obvious to one of ordinary skill in the art to provide Japan 808's spreader roller 14 with a **length of 98-108% (claim 5) or 99-108% (claim 13)** of the distance between boundary lines (fold lines) of the front surface and side surface such that the spread and non-spread portions are formed on the face paper in view of: (1) Japan 808's disclosure to make a plaster board (drywall panel) comprising a lower paper sheet using a spreading roller 14 having a length L less than the width X of the lower paper sheet to form a spread portion and non-spread portions wherein each non spread portion has a preferred width

Y of 10-50 mm (0.39 inch to 1.97 inch), (2) Japan 808's teaching to fold both edges of the lower paper sheet upwardly along longitudinal lines (the width of the board being the distance between the fold lines), (3) Japan 808's teaching to flow the high density slurry such that the edge of the plasterboard having the folded lower paper has a high density and (4) Ferguson's disclosure that four feet (48 inches) and four and one half feet (54 inches) are standard widths for a drywall panel. It is emphasized that the width of 10-50 mm for the non-spread portions of the high density gypsum slurry is a relatively small width compared to the standard width of a plaster board. For example, 10 mm is only 0.8% of the standard width of four feet for a plaster board (10 mm / four feet x 100% = 0.393 inch / 48 inches x 100% = 0.8%). The percentage is even smaller for a larger standard width (e.g. 0.7% for 54 inch width). The above obvious conclusion does not require a determination that the high density gypsum slurry extends fully to the edge of the paper sheet; the folding of the paper sheet causing "the edge of the paper sheet" to be different than "the edge of the board".

With respect to the non-spread portion, it would have been obvious to one of ordinary skill in the art to provide the non-spread portion with a width of "less than 10 mm" such as 9.99 mm since (1) Japan 808 teaches forming non-spread portions extending from the ends of the spreading roll for obtaining a plaster board having high density edges (for preventing dryout) and (2) Japan 808's disclosure of the non-spread portion having a width of 10 mm to 50 mm is merely a preferred teaching. As explained by the Federal Circuit, "...our case law does not require that a particular combination must be the preferred, or most desirable, combination described in the prior art in order

to provide motivation for the current invention." In re Fulton 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Applicant argues that none of the cited prior art contains a description or indication for the location of non spread portions with respect to scoring lines of a front surface base paper or a width of a plaster board (pages 7 and 8 of response filed 3-12-09). This argument is not persuasive since (1) Japan 808 teaches forming a higher density non-spread portion on each side of the coating roller 14 into edge parts of the base paper, folding the base paper and obtaining the higher density edge parts from the non spread portion and (2) Birdsey reveals that the folding desired by Japan 808 is facilitated by scoring. In other words, the location of scoring determines the location at which the paper is folded which in turn determines the width of the board. Applicant fails to address the examiner's reasoning on the preceding six pages of this office action.

With respect to the "a width of the non-spread portion is less than 10 mm" and "a length of the hard edge part in directions of a width thereof on a cross section thereof in directions of a width of a hardened plaster board after drying in step (g) is about 0.1 mm to about 15.0 mm", it would have been obvious to one of ordinary skill in the art to form Japan 808's board with hard edge parts having the claimed shape of one of triangular, crescentic, L-shape and J-shape since Japan 808 teaches forming the high density edge part by applying non-spread portions to the paper and then folding the paper upwardly. One of ordinary skill in the art would readily understand that the force of gravity causes some of the high density non-spread portion on the part of the paper

being folded to flow downward. With respect to the hard edge part having a width of 0.1-15 mm, note (1) examiner's above comments on the non-spread portion having a width less than 10 mm and (2) Japan 808's teaching to form high density edges from the non-spread portions. It is noted that claim 5 reads on the width of the hard edge being less than or equal to the width of the non-spread portion.

Applicant argues that the applied prior art fails to teach the limitation set forth in lines 39-42 (last four lines) of claim 5 (page 8 of response filed 3-12-09). This argument is not persuasive. As explained above, a width of less than 10 mm such as 9.99 mm for the non-spread portion is rendered obvious as a "non-preferred teaching" of and by Japan 808. When using a non-spread portion of less than 10 mm, the hard edge part must have a width of less than 10 mm because the non-spread portion is located on the edge part of the paper which is folded upward and the hard edge part is formed from the higher density non-spread portion. Furthermore, the claimed shape of the hard edge part as set forth in the last two lines of claim 5 is the result which naturally flows as a result of (1) the non-spread portion being located on the edge part of the paper which is folded upward, (2) the hard edge part being formed from the higher density non-spread portion and (3) the force of gravity on the non-spread portion. See USPTO translation of Japan 808 at page 10 lines 11-13, page 16 lines 4-10, page 18 last two lines and page 19 first three lines.

As to claim 6, Japan 808 teaches spreading gypsum slurry on a backing sheet using a spreader roll 14 of a roll coater 100.

As to claims 7 and 10, Japan 808 teaches a coating thickness of 100-500 microns (0.1 mm to 0.5 mm)

As to claims 8 and 11, Sucech et al teaches that materials such as accelerators, retarders, fillers, binders, etc. are often employed in slurries to prepare gypsum products and as such it would have been obvious at least one of those materials (e.g. retarder) along with the calcined gypsum and water in the rotary type mixer.

As to claims 9 and 12, it would have been obvious to add foam to the first and third streams for coating the sheets 110, 160 since Sucech et al suggests adding a *low concentration* of foam using inlets 34, 36 since completely unfoamed gypsum may be too hard.

As to claim 15, it would have been obvious to provide the spreader roll 14 with a width of 100% to 108% of the distance between the boundary lines (score lines) since (1) Japan 808 teaches forming the non-spread portions at the ends of the spreader roll 14 and (2) Japan 808 teaches forming the high density edges from the non-spread portions.

Remarks

5) Applicant's arguments filed 3-12-09 have been fully considered but they are not persuasive. Applicant's arguments are addressed above.

6) No claim is allowed.

7) **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
July 6, 2009